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THE OHIO STATE ENGINEER



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The Sidewalks of New York

HAVE become for most of us that very short space between going up and going down. We do not travel much on the surface these days. If our minds were a reflection of our trip through a modern city, we should be at once the most profound and the most ethereal race in the world.

The escalator and elevator carry us from the subway to the surface, from the surface to the elevated subway. The baggage hoist lifts our trunks from level to level. We enter a building and mount to the fiftieth story. Indeed, we have almost abandoned the horizontal, and the force of gravity seems just a bit old fashioned. The Otis Elevator Company has placed at our disposal an entirely new direction.



THE OTIS ELEVATOR must accept a great deal of the responsibility for the crowding of New York's sidewalks in the congested district. This seems fanciful but nevertheless it is true. Newspapers and magazines continually deplore the increasingly over-crowded condition of these sidewalks, due to the ever-increasing height of buildings. If it were not for the developments in the elevator industry made by the Otis Elevator Company as a pioneer, it would not have been possible to erect buildings of the stupendous heights which are now in vogue. It is the high speed Gearless Elevator, now culminating in the 800 ft. speed automatic signal control elevator, which has made the fiftieth floor almost as available in point of time as the twentieth floor, and that has, therefore, made it feasible to pile office on office high into the air.

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But because of the many subjects that must be covered in an engineering course, it is seldom possible to include a comprehensive course in Explosives Engineering. Until a short time ago the importance of this branch of engineering was not recognized. Blasting was carried on by blasters without the direction of engineers.

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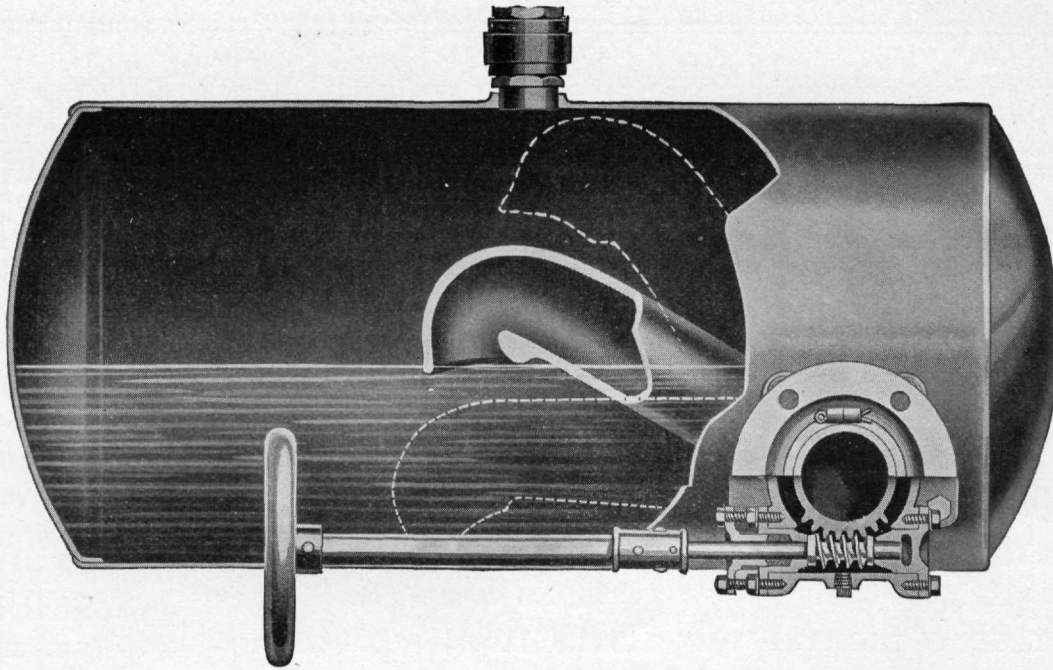
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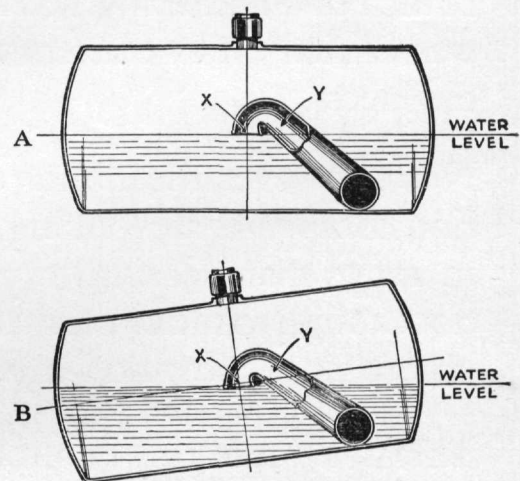
—another reason why Koehring Pavers Produce Dominant Strength Concrete

VITALLY important to the resultant strength and durability of concrete is the admittance of an accurate amount of water into the mixing drum at exactly the right instant. Long ago the Koehring Company recognized this fundamental requirement and set to work to devise an automatic water measuring system.

Today, the system is as nearly exact and accurate as human ingenuity has been able to design. A balanced three-way valve is automatically opened at a certain point, by the charging skip as it is raised, admitting the water into the mixing drum at exactly the right instant. The regulating hand wheel governs to a minute accuracy the amount of water which is to be used per batch.

All dribble is eliminated by the syphon-gravity principle which draws the water through a straight 3½ inch pipe into the mixing drum. Straight flow from the tank to drum secures a fast, clean discharge.

This is another pioneering development by Koehring engineers which with the Koehring batch meter, Koehring boom and bucket, and Koehring five action re-mixing principle produces standardized, dominant strength concrete of unvarying uniformity.



A and B illustrate clearly why changes of grade do not materially affect the accuracy of water measuring when using the Koehring system. X represents the volumetric center of the tank and Y the measuring arm.

"Concrete—Its Manufacture and Use" is a 210 page treatise on the uses of concrete, including 26 pages of tables of quantities of materials required in concrete paving work. To engineering students, faculty members and others interested we shall gladly send a copy on request.

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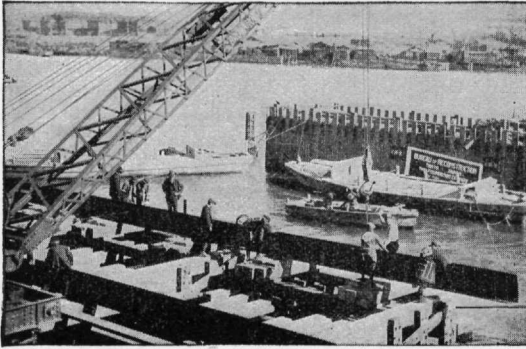
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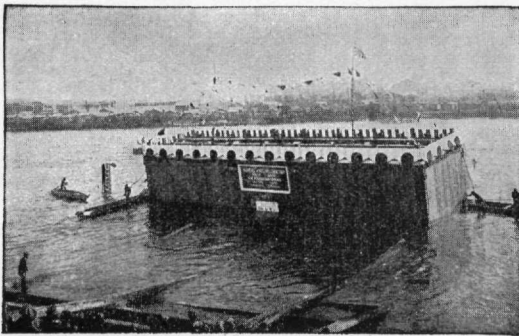
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"Sandhogs" Are Working In Japan



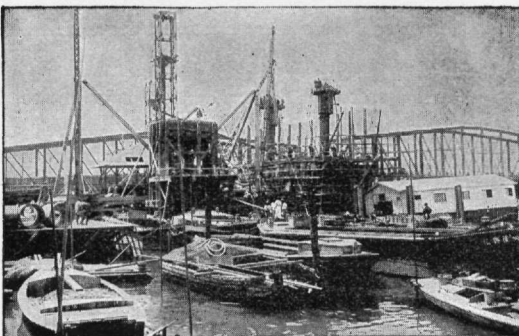
Pneumatic caissons and the men who work under air pressure within them—called "Sandhogs"—have been introduced into Japan by The Foundation Company.

As a result of the great earthquakes in 1923, and to avoid future destruction should they recur, unusual forms of construction are being used in Japan.



The Capital, Tokyo, like Venice, has a maze of waterways and many bridges span them. In the building of new bridges over the Sumida River, which divides the city, construction under air pressure was necessary to reach stable foundations.

Importing modern pneumatic equipment from America, the Japanese, under the supervision of Engineers of The Foundation Company, have built the new bridge piers.



The laying of a cutting edge of a caisson; the launching of one; and the installation of pneumatic equipment are shown in the views.

Foundations are but one of many types of structures built by this organization.

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